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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/578,630

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EXAMINER

COLEMAN, KEITH A

ART UNIT

PAPER NUMBER

3747

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DELIVERY MODE

12/10/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/578,630	Applicant(s) MARUO ET AL.	
	Examiner KEITH COLEMAN	Art Unit 3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-12 and 15-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-12 and 15-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-7, 9, 11, 12, 15, and 18-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoshino et al. (US Patent Publication 2004/0244771).

With regards to claim 1, Hoshino et al. discloses a throttle valve (2, Paragraph 40) for controlling the amount of intake air to an internal combustion engine (Paragraph 25), an electric motor (33, Paragraph 39) for driving the throttle valve (2), and a control section (15, 35, Paragraphs 39 and 40) for controlling the electric motor (33), characterized in that wherein the throttle valve (2) has an urging mechanism (via springs 34) for urging the throttle valve (2) in a closing direction (Paragraph 51), a control section (15, Paragraph 58) shifts the electric motor (33) to a mode (Paragraphs 50, 75, and 76) to control a speed at which the throttle valve (2) is rotated in the closing direction by urging force (34, Paragraph 51) of the urging mechanism when the control system has a failure (Paragraph 51). As to the 'regenerative' mode, since Hoshino et al. discloses an H-bridge circuit to control the DC motor (Paragraph 75), a resistor to track current produced (Paragraph 76), and counter electromagnetic forces naturally found when comparing the relationship between duty ratio and motor current (Paragraph 50), it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify H-bridge to allow the dc motor to be in regenerative mode or used as an generator (i.e. have SW1 and SW2 set T3 and T4 off, See Figure 9) in order to control current or stop the motor (Paragraphs 75 and 76).

As to the limitation of "the control section cuts off a power from a power supply to the electric motor and then shifts the electric motor to the regenerative mode," since Hoshino et al. discloses an H-bridge circuit to control the DC motor (Paragraph 75), a resistor to track current produced (Paragraph 76), and counter electromagnetic forces

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naturally found when comparing the relationship between duty ratio and motor current (Paragraph 50), it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify H-bridge to allow the dc motor to be in regenerative mode or used as an generator (i.e. have SW1 and SW2 set T3 and T4 off, See Figure 9) while the power supply is off in order to control and stop the motor (Paragraphs 75 and 76).

With regards to claim 2, Hoshino et al. discloses wherein the throttle valve (2) is rotated in the closing direction by the urging force of the urging mechanism (34) and then held in a predetermined opening position (34, Paragraph 40) when the control system has a failure (Paragraph 40).

With regards to claims 3 and 26-28, Hoshino et al. discloses a throttle valve (2) for controlling the amount of intake air to an internal combustion engine (Paragraph 25); an electric motor (33) for driving the throttle valve (2); and a control section (15,35) for controlling the electric motor (33); characterized in that wherein the throttle valve comprises a first urging mechanism (i.e. two springs 34 that provide force in opposite directions, Paragraph 51) for urging the throttle valve in a closing direction; and a second urging mechanism (i.e. two springs 34 that provide force in opposite directions, Paragraph 51) for urging the throttle valve in an opening direction, and the control section (15,35) shifts the electric motor (33) to a regenerative mode to control a speed at which the throttle valve is rotated in the closing direction by a relative urging force of

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the first and second urging mechanisms when the control system has a failure (Paragraph 40). As to the 'regenerative' mode, since Hoshino et al. discloses an H-bridge circuit to control the DC motor (Paragraph 75), a resistor to track current produced (Paragraph 76), and counter electromagnetic forces naturally found when comparing the relationship between duty ratio and motor current (Paragraph 50), it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify H-bridge to allow the dc motor to be in regenerative mode or used as an generator to control a speed at which the throttle valve is rotated in the closing direction by a relative urging force of the first and second urging mechanisms when the control system has a failure in order to control and stop the motor (Paragraphs 75 and 76). As to the limitation of "the control section cuts off a power from a power supply to the electric motor and then shifts the electric motor to the regenerative mode," since Hoshino et al. discloses an H-bridge circuit to control the DC motor (Paragraph 75), a resistor to track current produced (Paragraph 76), and counter electromagnetic forces naturally found when comparing the relationship between duty ratio and motor current (Paragraph 50), it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify H-bridge to allow the dc motor to be in regenerative mode or used as an generator (i.e. have SW1 and SW2 set T3 and T4 off, See Figure 9) while the power supply is off in order to control and stop the motor (Paragraphs 75 and 76).

With regards to claim 4, the patent to Hoshino et al. discloses wherein the throttle valve (2) is rotated in the closing or opening direction by the relative urging force (i.e. two springs 34 that provide force in opposite directions, Paragraph 51) of the first and second urging mechanisms and then held in a predetermined opening position when the control system has a failure (Paragraph 40).

With regards to claims 5 and 12, the patent to Hoshino et al. discloses wherein the internal combustion engine is maintained in such a state that escape a failure operation can be conducted when the throttle valve is held in the predetermined opening position (Paragraph 40).

With regards to claim 6, the patent to Hoshino et al. discloses a throttle valve (2) for controlling the amount of intake air to an internal combustion engine; an electric motor (33) for driving the throttle valve (2); and a control section (15,35) for controlling the electric motor (33), characterized in that wherein the control section shifts the electric motor (33) to a regenerative mode to control a rotation of the throttle valve (2) when the control system has a failure (Paragraph 40). As to the 'regenerative' mode, since Hoshino et al. discloses an H-bridge circuit to control the DC motor (Paragraph 75), a resistor to track current produced (Paragraph 76), and counter electromagnetic forces naturally found when comparing the relationship between duty ratio and motor current (Paragraph 50), it would have been obvious to a person of ordinary skill in the

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art at the time the invention was made to modify H-bridge to allow the dc motor to be in regenerative mode or used as an generator to control a rotation of the throttle valve when the control system has a failure in order to control or stop the motor (Paragraphs 75 and 76). As to the limitation of “the control section cuts off a power from a power supply to the electric motor and then shifts the electric motor to the regenerative mode,” since Hoshino et al. discloses an H-bridge circuit to control the DC motor (Paragraph 75), a resistor to track current produced (Paragraph 76), and counter electromagnetic forces naturally found when comparing the relationship between duty ratio and motor current (Paragraph 50), it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify H-bridge to allow the dc motor to be in regenerative mode or used as an generator (i.e. have SW1 and SW2 set T3 and T4 off, See Figure 9) while the power supply is off in order to control and stop the motor (Paragraphs 75 and 76).

With regards to claim 7, the patent to Hoshino et al. discloses wherein the throttle valve (2) is held in an opening position where it is when the control system has a failure (Paragraph 40).

With regards to claims 9 and 15, the patent to Hoshino et al. discloses wherein the urging mechanism comprises a spring (34, Paragraph 40).

With regards to claims 11, 18 and 19, the patent to Hoshino et al. discloses a two-wheeled motor vehicle provided with the electronic throttle valve control. Using broadest reasonable interpretation and since the throttle valve system in a vehicle, the gears are interpreted as wheels as shown in figure 3.

With regards to claims 21, 23, and 25, the patent to Hoshino et al. discloses wherein the detecting section is a throttle valve opening sensor (Col. 4, Lines 1-10).

With regards to claims 20, 22, and 24, the patent to Hoshino et al. discloses a detecting section for detecting a vehicle operating condition, wherein the control section cuts off the power from the power supply to the electric motor when the detecting section detects an abnormality (i.e. dependent on detecting over voltages, Col. 4, Lines 15-35).

5. Claims 10, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoshino et al. (US Patent Publication 2004/0244771) in view of Watanabe et al. (US Patent No. 4,411,231).

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With regards to claim 10, 16, and 17, the patent to Hoshino et al. discloses wherein the electronic throttle valve control system (15,35) except positively disclosing a throttle operation mechanism for use in driving the throttle valve manually so that the throttle valve can be rotated in the closing direction when the control system has a failure. However, Watanabe et al. discloses a throttle operation mechanism for use in driving the throttle valve manually so that the throttle valve can be rotated in the closing direction when the control system has a failure (Col. 2, Lines 15-20, Col. 4, and Lines 19-24). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide the throttle system of Hoshino et al. with a throttle operation mechanism for use in driving the throttle valve manually so that the throttle valve can be rotated in the closing direction when the control system has a failure in view of the teaching to Watanabe et al., in order to open the throttle valve to any desired level (Col. 4, Lines 19-24).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Furuta (US Patent No. 6,799,554) shows the current state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEITH COLEMAN whose telephone number is (571)270-3516. The examiner can normally be reached on 5:30-4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Cronin can be reached on (571)272-4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KAC
/K. C./
Examiner, Art Unit 3747

/Stephen K. Cronin/
Supervisory Patent Examiner, Art
Unit 3747